converting the first N signals into second N signals having a transmission-rate lower than that of the first N signals;

providing the second N signals separately to a plurality of base stations; and

converting each of the second N signals into a plurality of radio signals and transmitting each of the plurality of radio signals from an antenna of each of the base stations to the terminal.

23. (NEW) An apparatus for a radio LAN system, comprising:

a first unit receiving an input signal obtained by time-multiplexing a plurality of signals to be sent to a terminal;

a second unit extracting a time-continuous signal for the terminal from the input signal;

a third unit time-divisionally dividing the time-continuous signal into first N signals;

a fourth unit converting the first N signals into second N signals having a transmission-rate lower than that of the first N signals;

a fifth unit providing the second N signals separately to a plurality of base stations; and

a sixth unit converting each of the second N signals into a plurality of radio signals and transmitting each of the plurality of radio signals from an antenna of each of the base stations to the terminal.

REMARKS

Claims 3-5, 8, 9, 11, 12, 20, and 21 are pending in this application. Claims 3-5, 8, 9, 11, and 12 have been allowed. Claims 20 and 21 have been rejected. Claims 20 and 21 are cancelled in this Amendment. Claims 22 and 23 are newly added in this Amendment. No new matter is being presented, and approval and entry are respectfully requested.

The Objection to the Drawings

In item 1 on page 2 of the Office Action, the Examiner objected to the drawings as not showing "the radio signals are received *in parallel* by said terminal," as recited in claims 20 and 21. Claims 20 and 21 are cancelled in this Amendment. Accordingly, Applicant respectfully requests withdrawal of the objection to the drawings.

Claim Rejections Under 35 U.S.C. §112, First and Second Paragraphs

In items 2-5 on page 2 of the Office Action, the Examiner rejected claims 20 and 21 for the reasons set forth therein. Claims 20 and 21 are cancelled in this Amendment. Accordingly, Applicant respectfully requests withdrawal of the rejection to the claims under §112.

Rejections Under 35 U.S.C. §103(a)

The Examiner rejected claims 20 and 21 under 35 U.S.C. §103(a) as being unpatentable over the admitted prior art in view of Alexis (U.S. Patent No. 4,385,381). Claims 20 and 21 are cancelled in this Amendment. Accordingly, Applicant respectfully requests withdrawal of the rejection to the claims under §103(a). Further, it is the Applicant's position that new claims 22 and 23 are allowable and distinguishable over the prior art of record.

Claim 22 specifies extracting a time-continuous signal for the terminal from the input signal and time-divisionally dividing the time-continuous signal into first N signals. Claim 23 recites similar language.

In the prior art radio LAN system shown in Fig. 1 of the present application, to realize broad band transmission with a transmission rate of more than 100 Mbps, it is necessary for all the transmission paths to achieve substantially the same desired ratio of a modulated signal to noise (C/N ratio) at a transmission rate of more than 100 Mpbs. Thus, for all of the radio base stations, excessive transmit power is required, and antenna gain of all the radio base stations and the terminal station needs to be further increased.

Referring to Figs. 2 and 3 of the present application, a signal is transmitted from an external wiring LAN system to a data-rate conversion part 20. The input signal is represented by signal A in Fig. 3. A time-continuous signal is extracted from the input signal for each of the terminal units A, B, and C. The time-continuous signal is time-divisionally divided into three signals for radio base stations 1 to 3. For example, a time-continuous signal A1 is extracted from the input signal and time-divisionally divided into signals A1-1, A1-2, and A1-3 (Signals B of Fig. 3). The rates of the three divided signals are converted to three lower-rate signals (Signals C of Fig. 3). In the embodiment shown in Figs. 2 and 3, the converted rate is one-third the rate of the input signal. The three lower-rate signals are transmitted to the three radio base stations (not considering the redundant radio base station n). The lower-rate signals are

converted into radio signals and transmitted to the terminal station 10. The terminal station 10 converts the lower transmission rate signals and multiplexes the signals to reproduce an original fast rate signal (signal A of Fig. 3).

The admitted prior art does not disclose time-divisionally dividing an input signal into first N signals and converting the first N signals into second N signals, wherein a rate of the second N signals is lower than that of the first N signals, as indicated by the Examiner on page 3 of the Office Action. Also, neither the admitted prior art nor the Alexis reference discloses extracting a time-continuous signal for the terminal from an input signal and time-divisionally dividing the time-continuous signal into first N signals, as recited by claims 22 and 23 of the present invention.

The macrodiversity disclosed in the admitted prior art is a technique to obtain a diversity effect by sending the same data from a plurality of base stations. In contrast, in the present invention, signals such as A1-1, A1-2, and A1-3, which are obtained by time-divisionally dividing a time-continuous signal, are sent to one of the terminals.

In Alexis, a time-division multiplexed signal is applied to a series-to-parallel converter 14 having 512 outputs. The converter 14 distributes the bits of the time-division multiplexed signal over the 512 outputs. See Alexis at col. 3, lines 51-59. If the Alexis reference is applied to the admitted prior art and the transmission rate is reduced to one-third the rate of the input signal in an attempt to reduce the power consumption of each base station, the time needed to send signal A1 becomes three times as long. However, when the transmission rate is reduced in the present invention to one-third of the rate of the input signal, the time needed to send signal A1 does not change. This is because signals A1-1, A1-2, and A1-3 are transmitted simultaneously from different base stations and, thus, the entire signal A1 can be sent within the time required for continuously sending signal A1 from one of the base stations.

Therefore, in the present invention, a fast transmission rate signal is converted to a lower transmission rate signal, and the lower transmission rate signal is transmitted through radio transmission paths from a plurality of radio base stations to the terminal station. Thus, the transmit power of a radio base station may be reduced, and the antenna gain of the radio base station and the terminal station may also be reduced. As a result, power consumption of the radio LAN system may be reduced, and a higher rate (broad band) data transmission radio LAN system may be realized.

Therefore, Applicant submits that claims 22 and 23 patentably distinguish over the prior art. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection under §103.

CONCLUSION

It is submitted that the prior art of record, either taken individually or in combination, does not teach the present claimed invention. Thus, claims 3-5, 8, 9, 11, 12, 22, and 23 are deemed to be in a condition suitable for allowance. Reconsideration of the claims and an early Notice of Allowance are earnestly solicited.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Finally, if there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please **ADD** the following new claims:

22. (NEW) A communication method for a radio LAN system, comprising:

receiving an input signal obtained by time-multiplexing a plurality of signals to be sent to a terminal;

extracting a time-continuous signal for the terminal from the input signal;

time-divisionally dividing the time-continuous signal into first N signals;

converting the first N signals into second N signals having a transmission-rate lower than that of the first N signals;

providing the second N signals separately to a plurality of base stations; and

converting each of the second N signals into a plurality of radio signals and transmitting each of the plurality of radio signals from an antenna of each of the base stations to the terminal.

23. (NEW) An apparatus for a radio LAN system, comprising:

a first unit receiving an input signal obtained by time-multiplexing a plurality of signals to be sent to a terminal;

a second unit extracting a time-continuous signal for the terminal from the input signal;

a third unit time-divisionally dividing the time-continuous signal into first N signals;

a fourth unit converting the first N signals into second N signals having a transmission-rate lower than that of the first N signals;

a fifth unit providing the second N signals separately to a plurality of base stations; and

a sixth unit converting each of the second N signals into a plurality of radio signals and transmitting each of the plurality of radio signals from an antenna of each of the base stations to the terminal.